

Valve Flow Information

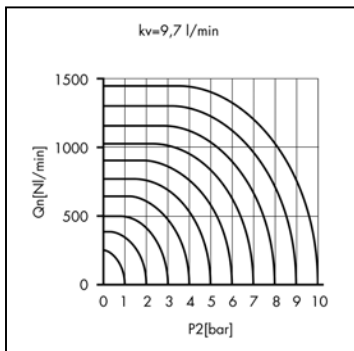
Spool Valves

Body Number (From Cat. Charts)	1S, 2S, 8S, 1MS	3S, 4S, 5S
Port Size-	1/8	1/4
Orifice-	mm: 6	8
	Inches: .236	.315
Cv-	.68	.87
Kv-	9.7	12.4
Flow SCFM -	@ 45 PSI: 17.6	22.4
	@ 90 PSI: 31.7	39.2
	@ 145 PSI: 51.5	63.5
Flow l/m (Liters per Min.)-	@ 3 Bar: 500	635
	@ 6 Bar: 900	1110
	@ 10 Bar: 1460	1800

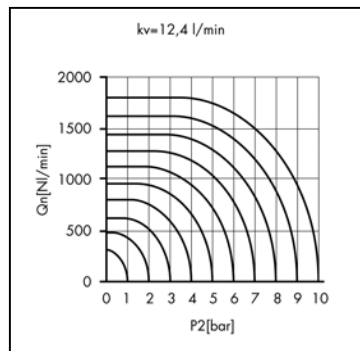
Poppet Valves

1aP, 1bP	9P, 10P, 1MP	6P, 7P	11P, 12P	
Port Size-	1/8	1/8	1/4	1/2
Orifice-	4	6	8	15
	.078	.236	.315	.59
Cv-	.44	.86	1.11	4.83
Kv-	6.3	12.3	15.8	68.8
Flow SCFM -	12.7	22.6	28.9	129.4
	21.0	39.5	50.5	227.1
	32.8	63.7	81.9	359.0
Flow l/m (Liters per Min.)-	360	640	820	3665
	595	1120	1430	6430
	930	1805	2320	10165

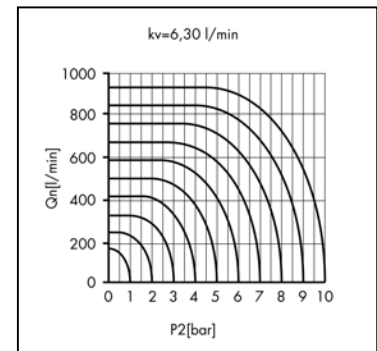
Flow Graphs in Bar and Liters per Minute



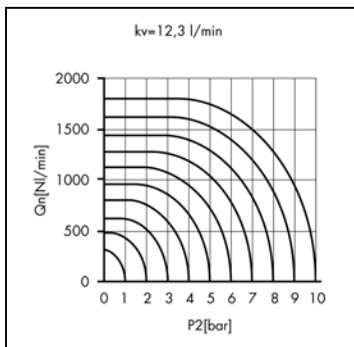
Valve Bodies 1S 2S 8S 1MS



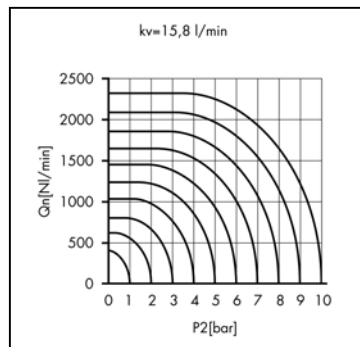
Valve Bodies 3S 4S 5S



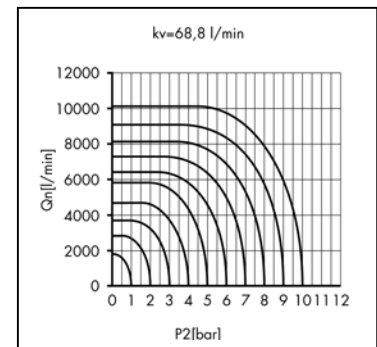
Valve Bodies 1aP 1bP



Valve Bodies 9P 10P 1MP



Valve Bodies 6P 7P



Valve Bodies 11P 12P

(1 Bar = 14.5 PSI; 1 liter = .03531 cubic feet)

**Electrically Operated Valves
Standard Solenoid Coils**

Coil Power Consumption-
 DC: 2.5 W
 AC: 4 VA 50Hz / 3.5 VA 60 Hz

Pull in power DC: 2.5 W
 Minimum Holding Power: 0.1 W
 Coil Inrush Current AC: 1.5 x Coil Current

Operating Range @ 20°C-
 DC and AC 50Hz coils: 80 to 110% of rated Voltage
 AC 60 Hz coils: 85 to 110% of rated Voltage

Operating time-
 Pick-up time: 15-20 ms
 Drop out time: 15-20 ms

Duty cycle: Continuous - 100%
 Insulation Class: F (155° C)

Voltage	Resistance (Ohms-Ω)	Coil Power Consumption mA		
		60 Hz	50 Hz	
AC	24	56	146	167
	48	220	73	84
	110	1280	32	37
	230	4750	16	18
DC	12	56	214	
	24	220	109	
	48	900	53	
	110	4300	25.5	
	220	8700	13	

Valve Information

Operating Pressure: 0 to 145 PSI (0 to 10 Bar)
 (Air piloted valves- 35 PSI/ 2.5 Bar min.)

Operating Ambient: -15° C to +50° C
 (5° F to 120° F)

Mounting: Any position

Materials-

Body: Die cast aluminum alloy
 (1aP, 1bP valves –cast zinc)
 (1MP, 1MS valves-molded)

Seals: Buna N (NBR)
 (1aP, 1bP valves –PUR)

Spools: Spool valves- Stainless
 Steel, Poppet valves- Brass

End caps: Zinc, steel or Makrolon

Lubricant: NILS Dimension Grease
 (Blue marker, Silicone Free)

Recommended Media: 5 micron filtered, lubricated or non-lubricated compressed air, or other neutral gases.

General Information

Intended Use- Series 75 and 76 valves are intended for general purpose industrial applications utilizing normal shop air supply systems. For special applications with other media or other environments, contact Kuhnke.

Media- Compressed air or other neutral gases, properly filtered. For applications on liquids contact Kuhnke.

Lubrication- Valves operate on lubricated or non-lubricated systems. After using components in a lubricated system, do not switch to an unlubricated system. Avoid over lubrication.

Vacuum Applications- Spool Valve designs can be applied on vacuum systems. For applications using poppet valves, use only specially assembled valves shown in the catalog.

Dimensions and Design Changes- All dimensions in this catalog are approximate, if necessary, detailed drawings can be obtained from Kuhnke or from one of the Kuhnke websites. Dimensions, valve design and materials are subject to change without notice.

Metric and NPT threads- Although similar in size, valve port threads in metric ported valves are different from NPT versions. NPT versions have a tapered thread that is used to form a seal with the fitting thread. Metric thread is straight, and the seal is provided by an o-ring or washer normally included with the connection fitting. Metric fittings can be used on NPT threaded valves, but NPT fittings cannot be used on metric threaded valves.